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## 2008 TECHNOLOGY-ENHANCED LEARNING (TEL) GRANT PROGRAM

# APPLICATION FORM

If you have questions about the program or require assistance in completing this form, please contact the Digital Media Center's TEL Grant Program manager, **Kurtis Scaletta**, [kurtis@umn.edu](mailto:kurtis@umn.edu), (612) 624-1323.

<b>Project Title:</b>	<b>VirtualVet II: The Veterinary Clinic of Croquet</b>
<b>Abstract (50 words):</b>	There is wide recognition in veterinary medicine that excellent communication skills are as important as clinical skills for favorable medical outcomes. This project proposes to develop the next generation of an existing veterinary communication skills video game in the Croquet environment, improving applicability for a student body with broad career interests.

**Note:** You will also need to enter the Project Title and Abstract into the TEL Grant tracking tool.

### I. PRINCIPAL INVESTIGATOR/PRIMARY CONTACT

<b>Name:</b>	<b>Rebecca McComas, DVM Director of Experiential Education</b>		
<b>Department:</b>	<b>Veterinary Clinical Sciences</b>		
<b>College or Unit:</b>	<b>College of Veterinary Medicine</b>		
<b>Campus Address:</b>	<b>B350 Veterinary Medical Center 1352 Boyd Avenue St. Paul, MN 55108</b>		
<b>Telephone:</b>	<b>612-625-4708</b>	<b>Telephone:</b>	<b>612-625-4708</b>

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## II. ADDITIONAL INVESTIGATORS

<b>Name:</b>	
<b>Department:</b>	

<b>Name:</b>	
<b>Department:</b>	

## III. PROJECT DESCRIPTION

### 1. LEARNING ACTIVITY OR PROCESS

Our proposal is to develop the second generation of an existing immersive virtual environment known as VirtualVet, a computer simulation being used at the U of M College of Veterinary Medicine which focuses on the development of clinical communication skills. VirtualVet introduces students to a virtual veterinary clinic where they meet virtual clients and work through clinical scenarios typical of small animal veterinary practice. We would like to develop the second generation of this learning tool in the Croquet environment (open source software – more information at <http://croquet.umn.edu/> and [http://opencroquet.org/index.php/Main\\_Page](http://opencroquet.org/index.php/Main_Page)).

Goals of VirtualVet II include the production of scenarios typical of equine, swine and dairy practices. This will appeal to and enhance the educational experience of students planning to work with these species. Croquet offers many enhanced capabilities over the current application, including the production of realistic clinical and farm settings and the opportunity to produce sound recordings to enhance the non-verbal elements of client dialog. Croquet allows for multiple users simultaneously at diverse locations which opens up the possibility for multi-institution collaboration. Students can meet and interact in cyberspace to collaborate and solve problems together.

Evaluation of the simulation's usefulness in mastery of clinical communication is of interest. How the tool compares with more traditional learning methodologies is of particular interest. The simulation's design principles could be adapted for use across disciplines within the Academic Health Center. Finally, the use of this educational simulation would be applicable to training programs at other institutions and even for post-graduate training programs.

### 2. COURSES AFFECTED

Professional Skills, CVM 6011/6012/6013/6014 is a series of courses in the core curriculum for all 90 veterinary students in each class. These courses are required during the fall and spring terms for the first two years of the curriculum. The curriculum of these courses is wide-reaching and includes leadership, communication skills, financial acumen, professional development, ethics, and professional roles in society.

We anticipate the product of this project to continue to play an important role in the teaching of clinical communication skills. This simulation would appeal to students interested in diverse fields of clinical practice – including clinical scenarios for companion animal, equine and production animal medicine. It would be adaptable to distance-learning and, in addition, will be a tool that students will be able to view again and again at their leisure, reinforcing the learning process.

### 3. LEARNING OUTCOMES

Upon completion of these computer simulations, we will expect students to:

- have a keener understanding of the critical importance of communication skills
- have incorporated effective questioning and listening skills into medical interviews
- have an enhanced ability to experience empathy with the client
- have improved observational and critical thinking skills
- have clearer and more empathetic discussions with clients and other educational professionals resulting in the ability to look at one's world in a new way

### 4. TEAM ROLES

Rebecca McComas will be responsible for the overall development and implementation of the learning tool. Technical and programming assistance will be provided by Ted Whalen who has expertise in gaming technology. Additional technical and programming assistance from various DMC and JaWS staff members will be essential when designing and creating the Croquet modules. Scenario design and learning pedagogy will involve collaboration with an outside consultant, Marilyn C.M. Erickson, MSW/MPH, social work and public health professional.

## IV. PERSONAL STATEMENT

For the past few years I have been immersed in developing simulation technologies for use within the veterinary curriculum. I am a firm believer that the mastery of skills such as clinical communication involves practice, in addition to acquisition of knowledge. At the CVM, we involve students in role play exercises, video analysis, and live client simulations to develop skills. With the introduction of VirtualVet, we embarked on a whole new means of student exploration, practice and learning. It has been a very successful addition to the curriculum and I am excited to work on the next phase. It has always been my goal to make my teaching relevant for students entering many types of clinical practice. Developing dairy, swine and equine game scenarios is essential to meeting that goal. It is also a goal to continue on my learning journey with leading-edge technologies to enhance educational experiences.

## V. TIMETABLE & BUDGET

**1. PROJECT TIMETABLE**

In addition to expectations outlined in the TEL grant application, including small group meetings, TEL presentation and poster session, and workshops, the timetable includes the following.

**Task 1:** Meet with DMC consultants to develop detailed task timelines and evaluation plans.

**Task 2:** Clinical scenario design and creation in Croquet platform.

**Task 3:** Professional consultations for design & development of tool to evaluate effectiveness of game as learning tool.

**Task 4:** Pilot testing with student focus group and final scenario revisions.

**Task 5:** Roll out tool with veterinary students in the Professional Skills curriculum.

**Task 6:** Evaluation and assessment of the program. Compilation of results of evaluation.

**Task 7:** Presentation of findings at local, regional, and international venues of veterinary medical education and communication. Explore collaborative opportunities with other learning institutions. (Ongoing after the conclusion of the timetable)

Month	1	2	3	4	5	6	7	8	9	10	11	12
<b>Task 1</b>	x											
<b>Task 2</b>		x	x	x	x	x						
<b>Task 3</b>		x		x		x						
<b>Task 4</b>						x	x					
<b>Task 5</b>									x	x	x	
<b>Task 6</b>										x	x	x
<b>Task 7</b>												x

**2. PROJECT BUDGET**

Item	VCS Dept	Grant
Faculty time – PI salary and fringe, travel	\$10,000	
Programmer fees for scenario production		\$8,000
Purchase of Croquet elements (environments, people, animals, etc.)		\$2,000
Student focus groups (meals, supplies)	\$100	
Supplies	\$300	
<b>Total</b>	<b>\$10,400</b>	<b>\$10,000</b>

## VI. ALIGNMENT WITH LEARNING OUTCOMES

The Doctor of Veterinary Medicine degree is a professional degree and so does not fall specifically under the undergraduate learning outcomes measurements. There are, however, commonalities between these objectives and overall CVM objectives. The themes of accountability, independence/interdependence, self-awareness and appreciation of differences are all touched on in the game scenarios. In addition, one of the stated learning outcomes is that students can communicate effectively. For example, dealing with difficult or reticent clients, holding oneself responsible for clinical outcomes as a result of the use or lack of use of communication skills, accepting of cultural or other differences between clinician and client are all addressed.

## VII. CONFLICT OF INTEREST

I/we certify that I/we  do  do not

have a conflict of interest as defined under the Board of Regents' Individual Business or Financial Conflict of Interest policy ([http://www.umn.edu/regents/policies/administrative/Individual\\_COI.htm](http://www.umn.edu/regents/policies/administrative/Individual_COI.htm)). If you selected "do," please describe the nature of the conflict of interest below.

## VIII. OUTCOMES FROM PREVIOUS TEL GRANTS

No previous TEL grants received.

## SUBMITTING YOUR PROPOSAL

- Once completed, submit your TEL grant **Application Form** to <http://telgrants.dmc.umn.edu>. Instructions on using the tool are available at <http://dmc.umn.edu/grants>.
- Also complete and return the **Signatures Page** signed by your department head(s) and dean(s) following the instructions on that document. (<http://dmc.umn.edu/grants/>)